CLAIMS

What is claimed is:

1. A method for transmitting a data field of symbols comprising the steps of:

generating a first data field of symbols;

encoding said first data field producing a second data field having complex conjugates of the symbols of said data field;

spreading said first and second data fields, wherein said first data field is spread using a first channelization code and said second data field is spread using a second channelization code, each channelization code being uniquely associated with one of a first and second antennas; and

transmitting an RF signal including said first and second spread data fields over a first and second antenna.

2. The method of claim 1 further comprising the step of scrambling said first and second spread data fields by a scrambling code associated with said base station.

3. The method of claim 2 wherein the symbols of said first data field of symbols are grouped into a first and second sub-data field.

4. The method of claim 3, wherein the symbols of said second data field of symbols are grouped into a third and fourth sub-data field, wherein said third sub-data field is the negative complex conjugate of said second sub-data field and said fourth sub-data field is the complex conjugate of said first sub-data field.

5. A transmitter for transmitting a data field of symbols comprising:

a first and second antenna for transmitting said data field of symbols;

an encoder for encoding said data field producing a second data field having complex

conjugates of the symbols of said data field; and

a first and second spreading device for spreading said first and second data fields, wherein said first spreading device spreads said first data field using a first channelization code and said second spreading device spreads said second data field using a second channelization code, each channelization code being uniquely associated with one of said first and second antennas.

6. The transmitter of claim 5 wherein said transmitter further comprising a first and second scrambling device for scrambling said first and second spread data fields by a single scrambling code associated with said transmitter.

7. The transmitter of claim 6 wherein the symbols of said first data field of symbols are grouped into a first and second sub-data field.

8. The transmitter of claim 7, wherein the symbols of said second data field of symbols are grouped into a third and fourth sub-data field, said third sub-data field being the negative complex conjugate of said second sub-data field and said fourth sub-data field being the complex conjugate of said first sub-data field.

9. A transmitter including:

a first and second means for transmitting a data field of symbols including a first data field;

a means for encoding said data field producing a second data field having complex conjugates of the symbols of said data field; and

a first and second spreading means for spreading said first and second data fields, wherein said first spreading means spreads said first data field using a first channelization code and said second spreading means spreads said second data field using a second

channelization code, each channelization code being uniquely associated with one of said first and second transmitting means.

10. The transmitter of claim 9 further comprising a means for scrambling said first and second spread data fields by a scrambling code associated with said transmitting means.

11. The transmitter of claim 10 wherein the symbols of said first data field of symbols are grouped into a first and second sub-data field.

12. The transmitter of claim 11, wherein the symbols of said second data field of symbols are grouped into a third and fourth sub-data field, wherein said third sub-data field is the negative complex conjugate of said second sub-data field and said fourth sub-data field is the complex conjugate of said first sub-data field.

13. A method for transmitting a data field of symbols comprising the steps of:

generating a data field of symbols;

spreading said first data field using a first channelization code producing a first spread data field;

spreading said first data field using a second channelization code producing a second spread data field, each channelization code being uniquely associated with one of a first and second antennas; and

transmitting an RF signal including said first and second spread data fields over a first and second antenna.

14. The method of claim 13 further comprising the steps of scrambling said first and second spread data fields by a scrambling code associated with said transmitter.

15. A transmitter for transmitting a data field of symbols comprising:

a first and second antenna for transmitting said data field of symbols; and

a first and second spreading device for spreading said data field, wherein said first spreading device spreads said data field using a first channelization code, producing a first spread data field, and said second spreading device spreads said data field using a second channelization code, producing a second spread data field, each channelization code being uniquely associated with one of said first and second antennas.

16. The transmitter of claim 15 further comprising a first and second scrambling device for scrambling said first and second spread data fields by a single scrambling code associated with said transmitter.

17. A transmitter comprising:

a first and second means for transmitting a data field of symbols; and

a first and second spreading means for spreading said data field, wherein said first spreading means spreads said data field using a first channelization code producing a first spread data field and said second spreading means spreads said second data field using a second channelization code producing a second spread data field, each channelization code being uniquely associated with one of said first and second transmitting means.

18. The transmitter of claim 17 further comprising a means for scrambling said first and second spread data fields by a scrambling code associated with said transmitting means.